

REMARKS/ARGUMENTS

Favorable reconsideration of this application in light of the following discussion is respectfully requested.

Claims 1-29 are pending in this application. By this Amendment, Claims 1, 5-6, 20, 23, 25-26 and 28 are amended; and no claims are cancelled or added herewith. It is respectfully submitted that no new matter is added by this Amendment.

In the outstanding Office Action, Claims 6, 20, 23 and 26 were objected to for informalities; Claims 1-7, 10, 11, 18-19 and 25-27 were rejected under 35 U.S.C. § 112, second paragraph; Claims 1, 8, 16, 28 and 29 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 5,703,965 to Fu and U.S. Patent No. 5,426,673 to Mitra; Claims 2-4, 12, 13, 15, 20-22 and 24 were rejected under 35 U.S.C. § 103(a) as unpatentable over Fu and Mitra and further in view of U.S. Patent No. 6,363,526 to Vlahos; Claims 9 and 17 were rejected under 35 U.S.C. § 103(a) as unpatentable over Fu and Mitra and further in view of U.S. Patent No. 6,229,578 to Acharya; and Claims 5-7, 10, 11, 14, 18, 19, 23 and 25-27 were indicated as including allowable subject matter.

Applicants appreciate the Examiner indicating allowable subject matter. Accordingly, Claim 28 is amended to include the allowable features of Claims 17 and 18.

With respect to the objection to Claims 6, 20, 23 and 26, these claims are amended by the present amendment. Accordingly, withdrawal of the objection to the claims is respectfully requested.

With respect to the rejection of Claims 1-7, 10, 11, 18-19 and 25-27 under 35 U.S.C. § 112, second paragraph, these claims are amended to clarify the features of the claims. Accordingly, withdrawal of the rejection of the claims under 35 U.S.C. § 112 is respectfully requested.

With respect to the rejection of the claims under 35 U.S.C. § 103(a), independent Claims 1, 8 and 16 similarly recite, in part, extracting edge information which is binary information representing an edge part of the original image, obtaining density information of an edge unsharpened image from the original image by unsharpening the edge part using the edge information, obtaining coded edge information by coding the edge information according to a first coding algorithm, and obtaining coded density information by coding the density information of the edge unsharpened image according to a second coding algorithm. The applied art does not disclose or render obvious these features.

Specifically, as discussed with respect to Figure 3 of Fu, in step 310 the input image array is decimated in both dimensions. In step 312, the decimated and optionally precompensated image array is compressed by a conventional image compression algorithm, such as JPEG. The steps 310 and 312 both take place in the source system 102. In step 314, the compressed, decimated image is transmitted via the transmission medium 104. As discussed with respect to Figure 5, steps 310, 312, 314, 316, 318 and 322 are the same steps as discussed with respect to Figure 3. In addition, in step 302, edges are identified in the image. In step 302, a file is created which identifies each of the edge pixels in the original image array, together with their color values. In step 304, since the edge information carries much of the perceptual information of the image, the edge file is encoded. In step 306, the encoded edge file is transmitted to the destination and in step 402, the edge file is decoded.

Mitra does not make up for the deficiencies of Fu discussed above. That is, Mitra is a discrete cosign transform-based image coding and decoding method. Mitra further discusses that prior to encoding, if the incoming video is an analog signal, it is sampled and converted to a digital data stream. Each frame of the image is pre-filtered, scaled to size, and edge-smoothed.

Accordingly, there is no teaching or suggestion for obtaining coded edge information by coding the edge information according to a first coding algorithm, and obtaining coded density information by coding the density information of the edge unsharpened image according to a second coding algorithm. Again, in Fu, the edge pixels are identified, the edge file is encoded, transmitted, and then decoded using an algorithm complementary to that which was used to encode it. There is no teaching or suggestion for the features of the claimed invention discussed above.

Further, it is respectfully submitted that there is no motivation to combine the above-discussed references. When an obviousness determination is based on multiple prior art references, there must be a showing by the patent examiner of some “teaching, suggestion, or reason” to combine the references. Gambro Lundia AB v. Baxter Healthcare Corp., 110 F.3d 1573, 1579, 42 USPQ2d 1378, 1383 (Fed. Cir. 1997) (also noting that the “absence of such a suggestion to combine is dispositive in an obviousness determination”). Whether motivation to combine the references is shown is a question of fact. See In re Dembiczak, 175 F.3d 994, 1000, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999). Evidence of a suggestion, teaching, or motivation to combine prior art references may flow, *inter alia*, from the references themselves, the knowledge of one of ordinary skill in the art, or from the nature of the problem to be solved. See Dembiczak, 175 F.3d at 999, 50 USPQ2d at 1617. Although a reference need not expressly teach that the disclosure contained therein should be combined with another, see Motorola, Inc. v. Interdigital Tech. Corp., 121 F.3d 1461, 1472, 43 USPQ2d 1481, 1489 (Fed. Cir. 1997), the showing of combinability, in whatever form, must nevertheless be “clear and particular.” Dembiczak, 175 F.3d at 999, 50 USPQ2d at 1617. “Trade-offs often concern what is feasible, not what is, on balance, desirable. Motivation to combine requires the latter.” Winner International Royalty Corp. v. Wang, 53 USPQ2d 1580, 1587 (Fed. Cir. 2000). Interpreting the Supreme Court’s decision in Dickinson v. Zurko, 50

USPQ2d 1930 (1999) regarding the standard of review in patent matters, the CAFC determined that when upholding a rejection of a claimed invention in an appeal, the CAFC must find that the decision by the USPTO Board of Appeals and Interferences is supported by “substantial evidence,” In re Gartside, 53 USPQ2d 1769 (Fed. Cir. 2000). Accordingly, for a proper rejection based on a combination of references, the rejection must be supported by evidence that the motivation to combine references was not merely feasible, but desirable.

According to the features of the claimed invention, the edge information, which is binary information, is extracted and the density information of an edge unsharpened image is obtained using the edge information. Then, coding of the edge information is performed using a first coding algorithm and coding of the density information is performed according to a second coding algorithm. During decoding, each of the edge information and the density information of the edge unsharpened image is obtained by decoding, and the edge part of the edge unsharpened image is restored by using the edge information. Again, Fu provides no teaching or suggestion for how one of ordinary skill in the art would obtain coded density information of the edge unsharpened image according to a second coding algorithm as recited in the claimed invention. Therefore, it is respectfully submitted that there is no basis in the teachings of the applied art to support the applied combination. It is respectfully submitted that the combination of the art is the result of hindsight reconstruction in view of the teachings of the present specification, and is improper.

Withdrawal of the rejections of the claims under 35 U.S.C. § 103(a) is respectfully requested.

Consequently, for the reasons discussed in detail above, no further issues are believed to be outstanding in the present application, and the present application is believed to be in condition for formal allowance. Therefore, a Notice of Allowance is earnestly solicited.

Should the Examiner deem that any further action is necessary to place this application in even better form for allowance, the Examiner is encouraged to contact the undersigned representative at the below listed telephone number.

Respectfully submitted,

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